

Bonneville Power Administration
Fish and Wildlife Program FY98 Watershed Proposal Form

Section 1. General administrative information

Title **North Fork John Day River Dredge Tailings Restoration**

Bonneville project number, if an ongoing project 9605300

Business name of agency, institution or organization requesting funding
USDA Forest Service, Umatilla National Forest, Confederated Tribes of the Umatilla Indian Reservation

Business acronym (if appropriate) USFS/CTUIR

Proposal contact person or principal investigator:

Name John Sanchez
Mailing Address Umatilla NF, 2517 SW Hailey Ave.
City, ST Zip Pendleton, OR 9780s1
Phone 541-278-3819
Fax 541-278-3730
Email address _____

Subcontractors.

Organization	Mailing Address	City, ST Zip	Contact Name

NPPC Program Measure Number(s) which this project addresses.
7.6B.5

NMFS Biological Opinion Number(s) which this project addresses.
N/A

Other planning document references.

Subbasin.

Short description.

Restore floodplain function to dredge mined reaches of NFJD River tributaries by rehabilitating areas with cone-shaped tailings piles that restrict river flow.

Section 2. Key words

Mark	Programmatic Categories	Mark	Activities	Mark	Project Types
X	Anadromous fish	X	Construction	X	Watershed
*	Resident fish	*	O & M		Biodiversity/genetics
*	Wildlife		Production		Population dynamics
	Oceans/estuaries		Research	*	Ecosystems
	Climate	*	Monitoring/eval.		Flow/survival
	Other	*	Resource mgmt		Fish disease
			Planning/admin.		Supplementation
			Enforcement		Wildlife habitat en-
			Acquisitions		hancement/restoration

Other keywords.

Floodplain, Restoration

Section 3. Relationships to other Bonneville projects

Project #	Project title/description	Nature of relationship
		Not interdependent with other projects. (possibly ODFW project on private land) Call Jeff Weed

Section 4. Objectives, tasks and schedules

Objectives and tasks

Obj 1,2,3	Objective	Task a,b,c	Task
1	Restore 1.1 miles of Clear Creek Floodplain	a	Relocate 30,000 cubic yards of a 170,000 cubic yard total of dredge trailings from the Clear Cr. Floodplain that restricts high

			stream flows.
2	Restore 0.1 miles of Granite Creek Floodplain	a	Relocate 2,500 cubic yards of dredge tailings from the Granite Creek floodplain that restricts high stream flows.
3	Blackjack mine acid water bog maintenance	a	Extend the bog and effluent pipe.
4	Floodplain restoration maintenance and monitoring	a	Native vegetation seeding
4	Floodplain restoration maintenance and monitoring	b	Project effectiveness monitoring.

Objective schedules and costs

Objective #	Start Date mm/yyyy	End Date mm/yyyy	Cost %
1	5/1998	7/1998	62.00%
2	6/1998	7/1998	6.00%
3	6/1998	8/1998	18.00%
4	4/1998	3/1999	14.00%
			TOTAL 0.00%

Schedule constraints.

None

Completion date.

2002

Section 5. Budget

FY99 budget by line item

Item	Note	FY98
Personnel		
Fringe benefits		
Supplies, materials, non-expendable property		
Operations & maintenance		\$27,000
Capital acquisitions or improvements (e.g. land, buildings, major equip.)		
PIT tags	# of tags:	

Travel		
Indirect costs		
Subcontracts	Equipment Rental Contract	\$58,000
Other		\$ 0
TOTAL		\$ 0

Outyear costs

Outyear costs	FY99	FY00	FY01	FY02
Total budget	\$85,000	\$85,000	\$25,000	\$15,000
O&M as % of total	10.00%	10.00%	99.00%	99.00%

Section 6. Abstract

Gold miners in the late 1930's through the early 1950's operated a dragline dredge on the North Fork John Day River and its tributaries, essentially turning the river upside down and leaving the river bottom in piles near the bank. This left behind thousands of cone-shaped piles of river rock and a degraded floodplain. This project is the continuation of a multi-year project to restore the floodplain by re-depositing the tailings allowing the river to flow over portions of the floodplain previously unavailable. Channel complexity and fish habitat quality and quantity will increase as the river reclaims its floodplain, dissipating the energy of high flow events and depositing sediment that promotes riparian vegetation growth.

The strategy for monitoring and evaluating the project results will continue to be through suspended sediment samples, macro-invertebrate sampling, photo point, and stream cross-section profiles.

Section 7. Project description

a. Technical and/or scientific background.

Past dredge mining severely altered the river's floodplain and instream characteristics. The tailing piles left behind confine the stream to a strait narrow high velocity channel. The results of these activities continue to cause streambank erosion and loss of fish habitat for summer steelhead, spring chinook salmon, rainbow trout, and bull trout.

The project will consist of redistributing piles of dredge tailings along 2 miles of river, moving approximately 170,000 cubic yards of rock and gravel, throughout the floodplain of the river. This treatment will allow the river to pass high flows over the floodplain which will dissipate energy and deposit sediment. The result will be a river that meanders through the floodplain creating quality fish and wildlife habitat. The purpose of the project is to improve salmonid rearing habitat, water quality, streambank stability and

riparian function. Techniques and methods developed on this project can be applied to floodplain restoration at dredge sites on other federal lands and throughout the West.

This project is a continuation of the successful work on 9 miles of the North Fork John Day River completed downstream. The work began with a pilot project in 1993 that was successful in reconstructing 1,200 linear feet of river floodplain and redistributing dredge tailings. The monitoring results of the pilot project were published in Aqua-Talk (McKinney and Calame 1994).

The pilot project was followed by a 3-year project restoring proper floodplain function to 34 sites located on a 9 mile reach. Approximately 400,000 cubic yards of dredge tailings were redistributed on the floodplain.

b. Proposal objectives.

The project will consist of redistributing dredge tailing piles within the floodplain of the river including intermittent side channels and the main river channel. This treatment will allow the river to pass high flows, dissipate energy, and deposit sediment and would allow the river to meander through the floodplain and create quality fish and wildlife habitat. The purpose of the project is to improve salmonid rearing habitat, water quality, streambank stability and riparian function. Physical channel parameters make excellent measurable objectives for this proposed project. The cone-shaped dredge tailings piles restrict high stream flows to a narrow channel that results in accelerated bank erosion. Channel profile objectives would be established for each project reach.

The North Fork John Day River is home to wild runs of summer steelhead and spring chinook salmon. This multi-year project will restore the floodplain by re-depositing the dredge tailings allowing the river to flow over portions of the floodplain previously unavailable. Channel complexity and fish habitat quality and quantity will increase as the river reclaims its floodplain, dissipating the energy of high flow events and depositing sediment that promotes riparian vegetation growth.

The four proposed objectives identified in section 4 are:

- 1) Restore 1.1 miles of Clear Creek floodplain
- 2) Restore 0.1 miles of Granite Creek floodplain
- 3) Blackjack mine and effluent bog maintenance
- 4) Floodplain restoration maintenance and monitoring

c. Rationale and significance to Regional Programs.

This floodplain restoration project specifically addresses Measure 7.6B.5. The project is critical to restore natural river function to reaches of tributaries of the North Fork John Day River that were channeled by historic dredge mining. The project has multiple benefit including fish habitat, water quality, floodplain restoration, and wildlife habitat.

The project also addresses Measure 7.6B.4 which calls for giving priority to actions that maximize the desired result per dollar spent and to actions that have a high probability of succeeding at a reasonable cost. Our past success had demonstrated the cost effectiveness of our proven techniques.

Measure 7.6C.5 calls for Federal land and water management agencies, states, tribes, and private landowners to take all steps necessary to comply with habitat objectives. This watershed restoration project has demonstrated this cooperation and mutual desire to correct past actions that have resulted in degraded habitat.

d. Project history

The North Fork John Day River Floodplain Restoration Project has a long history of multi-funding. The project began with a pilot project in 1993. The pilot project was monitored for 1 year before the techniques were expanded to a 9-mile reach of the North Fork John Day River in 1995 through 1997. The successful techniques in dredge tailing floodplain restoration are now expanded to the upper reaches of the watershed.

Project work has been a partnership funded by USDA Forest Service Challenge - Cost Share, appropriated anadromous fish and soil and water improvement funding, John Day Acid Spill Trust Fund, Blue Mountain Chapter Trout Unlimited, and BPA. The Confederated Tribes of the Umatilla Indian Reservation have been co-applicants on this project for two years. The Oregon Department Fish and Wildlife have also worked very closely with this project and propose similar work on private land within the North Fork John Day River watershed.

BPA contract work has been conducted on the North Fork John Day River since the early 1980's under contract number 8400800. This project is an example of adaptive management from earlier project efforts.

e. Methods.

Restoration of natural floodplain function will be accomplished through the reconstruction of the natural floodplain strata disturbed by past mining activities using heavy equipment. Gravel and cobble tailing piles will be used to fill depressions in the floodplain following removal of built-up fine sediments. These sediments will then be used to cover the leveled tailings for recovery of natural riparian vegetation in the floodplain.

Floodplain restoration techniques pioneered on the lower reaches of the North Fork John Day will be used to allow the rivers to re-establish floodplain function. The tailing piles left behind by past mining activity confine the streams to a straight, narrow, high velocity channel. Previous restoration activities were more structure oriented while this new approach seeks to restore floodplain function. A track mounted excavator is used to remove the tailing piles that confine stream flow.

Tailing piles have been successfully redistributed on the floodplain, returned to the stream channel, and transported off-site to be used as road fill. The proposed project is to use most of the dredge tailing that presently confine the stream channel as road fill with a small amount being redistributed on the floodplain.

f. Facilities and equipment.

This habitat restoration project relies on existing monitoring equipment and equipment rental for construction. Replacement of field equipment could be necessary but is not anticipated at this time.

g. References.

Northwest Power Planning Council. 1994. Columbia River Basin Fish and Wildlife Program. Northwest Power Planning Council, Portland, OR.

McKinney, S. P. and E. Calame. 1994. North Fork John Day Dredge Tailing Restoration Project. Aqua-Talk, U.S. Forest Service R-6 Fish Habitat Relationship Technical Bulletin No. 5, Portland, OR.

Section 8. Relationships to other projects

This project complements the efforts of Oregon Department of Fish and Wildlife in their BPA contract work on private land. Jeff Neal, ODFW, is presently working on an agreement with private landowner Carter Kerns to implement similar floodplain restoration work on private land along Granite Creek within the project area.

This project is not dependent on or in conflict with any other proposals.

Section 9. Key personnel

John Sanchez, Project Manager
USDA Forest Service
Fish Biologist

1979 B.S. Humboldt State University
Fish Biology and Wildlife Management

1987 Certified Fisheries Biologist
American Fisheries Society.

John has 19 years of experience as a professional fisheries biologist. He has worked as a District Fisheries Biologist on three Districts in the Forest Service and has been the Forest Fish Biologist on the Umatilla NF since 1987. John's duties have included BPA Project Manager for the past 10 years.

Section 10. Information/technology transfer

Methods have been presented at workshops and through site visits. Our past technology transfer efforts have resulted in a proposal for similar work to be conducted on the Yankee Fork Salmon River.